

54. A method of claim 53, wherein the viscosity of aqueous glittering ink measured by an ELD viscometer 3° R14 cone; rotation speed: 0.5 rpm; 20°C is 1000 to 10000 mPa•s.
55. A method for using an aqueous glittering ink composition for a writing tool, the method comprising: providing an aqueous glittering ink composition which comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100 µm, a water-soluble resin, a water-soluble organic solvent and water and further comprises a binder component, packing said aqueous glittering ink composition into an ink container made of a hollow tube, and equipping a ball-point pen tip with said ink container.
56. A method of claim 55, wherein the viscosity of aqueous glittering ink measured by an ELD viscometer 3° R14 cone; rotation speed: 0.5 rpm; 20°C is 1000 to 10000 mPa•s.

Attached hereto is a marked-up version of the changes made to claims 24, 30, 31, 33 and 35 by the current amendments. The attachment is entitled "Version with Markings to Show Changes Made".

### **REMARKS**

#### **THE OFFICIAL ACTION OF APRIL 9, 2002**

In the Office Action of April 9, 2002, the Examiner rejects

1. Claims 2, 4, 6, 8, 10, 12, and 14 for double patenting under 35 U.S.C. § 101;
2. Claims 7, 13, 21, 24, 30-31, 33, and 35 under 35 U.S.C. § 112, second paragraph, as being indefinite;

3. Claims 2, 4, 6, 8, 10, 12, 14 and 21 under 35 U.S.C. § 102(a) as being anticipated by JP 10077438;
4. Claims 2, 4, 6, 8, and 10 under 35 U.S.C. § 102(b) as being anticipated by JP 7118592;
5. Claims 2, 4, 6, 8, 10, and 12 under 35 U.S.C. § 102(b) as being anticipated by EP 600205;
6. Claims 14 and 21 under 35 U.S.C. § 103(a) as being unpatentable over either JP 10077438, JP 118592, or EP 600205 in view of US 5510398;
7. Claims 1, 5, 7, 9, 22-24, and 28-35 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of US 3053683;
8. Claims 25-27 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of US 3053683 further in view of US 6160034;
9. Claim 21 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of US 3053683 further in view of US 55714526;
10. Claims 1, 3, 5, 7, 9, 11, 15-18, and 20 under 35 U.S.C. § 103(a) as being unpatentable over US 6039796 in view of US 3053683;
11. Claims 13 and 21 under 35 U.S.C. § 103(a) as being unpatentable over US 6039796 in view of US 3053683 further in view of US 5714526; and
12. Claim 19 under 35 U.S.C. § 103(a) as being unpatentable over US 6039796 in view of US 3053683 further in view of US 6099629.

## THE PENDING CLAIMS

Claims 1 (twice amended), 3 (twice amended), 5, 7, 9, 11, 13, 15-23, 24 (twice amended), 25-29, 30 (twice amended), 31-32, 33 (twice amended), 34, and 35 (twice amended) and new claims 36 through 56 are presently pending in the application.

Independent claim 1 (twice amended) defines:

An aqueous glittering ball-point pen ink composition comprising

- a. a glass flake pigment,
- b. a water-soluble resin,
- c. a water-soluble organic solvent, and
- d. water

as essential ingredients,

said glass flake pigment being glass flake coated with a metal, and said glass flake pigment having a median diameter of about 5 to about 100  $\mu\text{m}$ .

Independent claim 3 (twice amended) defines:

An aqueous glittering ball-point pen ink composition comprising

- a. a glass flake pigment,
- b. a water-soluble resin,
- c. a water-soluble organic solvent,
- d. water, and
- e. a colorant

as essential ingredients,

said glass flake pigment being glass flake coated with a metal, and said glass flake pigment having a median diameter of about 5 to about 100  $\mu\text{m}$ .

Independent claim 22 defines:

A writing tool having an ink container in which an aqueous glittering ink composition is packed, wherein said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water.

Independent claim 29 defines:

A writing tool having an ink container that is made of a hollow tube equipped with a ball-point pen tip at one end, wherein an ink container in which an aqueous glittering ink composition is packed, and said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$  and contained

in about 1.0 to about 40% by weight, a water soluble resin contained in about 0.01 to about 40% by weight and a water-soluble organic solvent contained in about 1.00 to about 40% by weight relative to the total amount of the ink composition.

Independent claim 32 defines:

A method for using an aqueous glittering ink composition for a writing tool, the method comprising: providing an aqueous glittering ink composition which comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water.

Independent claim 34 defines:

A method for using an aqueous glittering ink composition for a writing tool, the method comprising: providing an aqueous glittering ink composition which comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water, packing said aqueous glittering ink composition into an ink container made of a hollow tube, and equipping a ball-point pen tip with said ink container.

Independent claim 43 defines:

A ball point pen having an ink container that is made of a hollow tube equipped with a ball-point pen tip at one end, wherein an ink container in which an aqueous glittering ink composition is packed, and said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a colorant, a synthetic resin emulsion as a binder component, a water-soluble resin, a water-soluble organic solvent and water, and comprises

- a. the glass flake pigment coated with a metal in about 0.01 to about 40% by weight
- b. the colorant in about 0.01 to 30% by weight
- c. the synthetic resin emulsion in about 0.01 to about 40% by weight in solids, and
- d. the soluble resin in about 0.01 to about 40% by weight

relative to the total amount of the ink composition, and the viscosity of ink measured by an ELD viscometer with a 3° R14 cone; rotation speed: 0.5 rpm; at a temperature of 20°C is 1000 to 10000 mPa•s.

Independent claim 44 defines:

A writing tool having an ink container in which an aqueous glittering ink composition is packed, wherein said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water and further comprises a binder component.

Independent claim 50 defines:

A writing tool having an ink container that is made of a hollow tube equipped with a ball-point pen tip at one end, wherein an ink container in which an aqueous glittering ink composition is packed, and said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$  and contained in about 1.0 to about 40% by weight, a water-soluble resin contained in about 0.01 to about 40% by weight and a water-soluble organic solvent contained in about 1.00 to about 40% by weight relative to the total amount of the ink composition and further comprises a binder component that is from about 0.01 to about 40% by weight in solids relative to the total amount of the ink composition.

Independent claim 53 defines:

A method for using an aqueous glittering ink composition for a writing tool, the method comprising: providing an aqueous glittering ink composition which comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water and further comprises a binder component.

Independent claim 55 defines:

A method for using an aqueous glittering ink composition for a writing tool, the method comprising: providing an aqueous glittering ink composition which comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a water-soluble resin, a water-soluble organic solvent and water and further comprises a binder component, packing said aqueous glittering ink composition into an ink container made of a hollow tube, and equipping a ball-point pen tip with said ink container.

### **THE CLAIMED INVENTION**

### **THE DOUBLE PATENTING REJECTION**

The rejection of claims 2, 4, 6, 8, 10, 12, and 14 for double patenting under 35 U.S.C. § 101 is now moot because claims 2, 4, 6, 8, 10, 12, and 14 have been cancelled without prejudice and in view of co-pending U.S. Patent Application Serial No. 10 091.883.

### **THE INDEFINITENESS REJECTIONS**

Claim 7 has been cancelled without prejudice as being redundant to claim 1. Claim 21 has been cancelled without prejudice as being redundant to claim 13. Claims 24, 30, 31, 33, and 35 have been amended in conformance with the Examiner's requirements.

Consequently, the rejection of claims 7, 13, 21, 24, 30-31, 33, and 35 under 35 U.S.C. § 112, second paragraph, as being indefinite has been completely traversed.

### **THE ANTICIPATION REJECTIONS**

The rejection of claims 2, 4, 6, 8, 10, 12, 14 and 21 under 35 U.S.C. § 102(a) and 102(b) as being anticipated is now moot because claims 2, 4, 6, 8, 10, 12, and 14 have been cancelled without prejudice and in view of co-pending U.S. Patent Application Serial No. 10 091.883 and claim 21 has been canceled without prejudice as being redundant to claim 13.

## THE OBVIOUSNESS REJECTIONS

### JP 118592 IN VIEW OF US 3053683

Claims 1, 5, 7, 9, 22-24 and 28-35 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP7118592 in view of Yolles (U.S. 3,053,683.)

JP7118592 discloses a colored ink with pearlescent luster (that is realized by the mixed color of a pearlescent pigment and a colorant). Therefore, JP7118592 does not relate to the presently claimed invention in which a written mark is provided with a spatial effect with a star dust like glittering feeling with a glitter of glass flakes coated with metal due to the metallic reflection that separately occurs from the realization of the color of a colorant.

JP7118592 relates to color development obtained by dyes and the like, and pearlescent pigments. This color development is a pearlescent color (a mixed color) in which the color of dyes are adhered. On the other hand, the important aspect of the present invention is the combination of metal coated glass flakes and colorants, such as pigments. In other words, in the ink of the present invention, pigment particles whose particle diameter is small are arranged on a written mark along with the metal coated glass flake particles whose particle diameter is large, and with the color development of both the pigment particles and the metal reflection of a light by the metal coated glass flakes, a glittering written mark in which a metal coated glass flake in the color development of a pigment particle exists can be obtained.

Yolles discloses a coating layer rather than a written mark as made by a writing instrument such as a ball-point pen. In the Office Action, the Examiner asserts:

“...using the definition provided by applicant on page 11 of the amendment filed 1/14/02, i.e. that a coating is “a

layer of protective or ornamental substance laid on in a single application", it is clear that the broad disclosure of coating by Yolles does encompass ink given that ink itself is an ornamental substance laid on paper in a single application.  
- Page 12

This position ignores a component of the definition – "a layer...". And that a written mark is not a layer. The modes of application of a coating in Yolles are not analogous to those of the making of a written mark, particularly by a ball-point pen. The written mark by a writing instrument, including a ball-point pen, is a path of contact for writing characters and for drawing pictures that is clearly different from a simple coating. The ink of the present invention provides a written mark like a star dust with the twinkling glitter of the optical metal reflection in a written mark when characters are written with a ball-point pen. And this written mark made with the ink composition of the present invention is far from a conventional written mark.

In the present invention of the present application, when a glass flake pigment is contained in less than 0.01% by weight with respect to the total amount of the ink composition, a glittering feeling and a spatial effect are not satisfactorily obtained. On the other hand, when a glass flake pigment is contained in more than 40% by weight with respect to the total amount of the ink composition, the viscosity becomes so much for the ink that fluidity lowers and writing performance is deteriorated. Although JP7118592 states that a pearlescent pigment is contained in 5 to 20% by weight (column 2: lines 39 to 40), the statement is confined to this and this statement does not suggest the structure of the present invention in which the content of glass flakes is so made to be 0.01 to 40% by weight to provide a glittering feeling and a spatial effect and inhibit the viscosity rise.



while obtaining fluidity to realize good writing performance. The reason is that even though both have in common using decorative pigments, a pearlescent pigment is coated with metal oxide with high refractive index and a pearlescent pigment is a pigment for providing luster (gloss) in the written mark, while in the present invention, the glass flake is coated with a metal with metal reflection and the glass flake is a pigment for realizing a stardust like glitter by sprinkling light reflection pieces in a written mark. This reasoning is also supported by the evaluation in the specification of the present application, which discloses Comparative Example 2 in which a pearlescent pigment was used had neither glittering feeling nor spatial effect (page 23 of the Specification). Therefore, the contained amount of JP7118592 in which the content of a pearlescent pigment is different does not directly suggest the contained amount range of a glass flake of the present invention.

Further, in the present invention, when the colorant is contained in more than 30% by weight with respect to the total amount of the ink composition, the viscosity becomes so much that fluidity lowers. A glittering feeling lowers, too. Neither Yolles nor JP7118592 teaches these points. In other words, the relationship in terms of amount between a colorant and glass flakes is not taught or suggested.

Glass flakes present great technical difficulty in successful use in an ink for handwriting, particularly for ball-point pen ink. See for example, U.S. Patent No. 6,422,776 of the assignee of the present invention. (Copy attached.)

U.S. Patent No. 6,422,776 states:

"The present applicant has repeated continuous-writing tests with use of a thixotropic one containing glass flake pigments or the like selected from the aqueous inks disclosed in the preceding application No. 11-76868. The

ordinary ball-point pens filled with this ink have, however, provided unsatisfactory due to blurs or unsmoothness appearing in the written letters or the like. Further, the penpoint became clogged in the course of writing. These inconveniences have also been found in the case of using water-soluble gel inks each containing a metallic-luster pigment such as aluminum powder, or a titanium oxide pigment."

- Col. 1, lines 57-67.

[Japanese Patent Application No. 11-76868 is a priority application to the present application.]

The rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of US 3053683 is now moot because claim 7 has been canceled without prejudice as being redundant to claim 1.

**JP 118592 IN VIEW OF US 3053683 FURTHER IN VIEW OF US 6160034**

Claims 25-27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP7118592 in view of Yolles and further in view of newly cited Allison et al. (U.S. 6,160,034.)

With respect to Allison, the resin emulsion of Allison is but one of the raw materials among the pH-sensitive film-forming agents (Column 4: lines 7 to 9). Allison does not use a resin emulsion as a binder. Since the film of Allison is a "water resistant cross linking film" (Column 2: line 66 to Column 3: line 5) which was formed by a cross linking reaction between acid function monomer in the latex which composes film-forming agents and polyfunctional amine, it cannot be said that the resin emulsion is a binder of glass flakes as described in the present invention. Therefore, Allison does not suggest a resin emulsion as a binder.

According to the description in the specification of the present application, when a synthetic resin emulsion is used as a binder component, the present invention is capable of improving strong fixability of a glass flake pigment to a written mark without affecting the solubility of the water soluble thickening resin, dispersability of a colorant, viscoelasticity of an ink and color development of an ink and without inhibiting the effect of a strong glittering feeling and a spatial effect by compounding glass flake pigments. (See page 10 of the present specification, lines 17 to 23.) Since a binder component of the present invention is not a water soluble synthetic resin but a synthetic resin emulsion, such properties as solubility of a water soluble thickening resin, dispersability of a colorant, viscoelasticity of an ink, and the like are less likely to be affected badly even when they are compounded at the same time. (See page 11 of the specification, lines 16 through 24.) Therefore, the ink composition of the present invention is capable of improving the fixability of glass flakes without affecting the viscosity of an ink, writing aptitude, and a color of a written mark or a coated film. Allison does not disclose or suggested these points.

When the content of a synthetic resin emulsion exceeds 40% by weight in solids with respect to the total amount of the ink composition, the solids become so much so that writing aptitude lowers, such as a film coating at the pen tip. Or a written mark is likely to whiten. Allison does not teach these points, either.

**JP 118592 IN VIEW OF US 3053683 FURTHER IN VIEW OF US 55714526**

The rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of Yolles further in view of Whyzmuzis is now moot because claim 21 has been canceled without prejudice as being redundant to claim 13.

**JP 10077438, JP 118592, OR EP 600205 IN VIEW OF US 5510398**

Claims 14 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over either JP10077438, JP7118592 or EP600205 either of which in view of Okuda et al. (US 5,510,397.)

The same remarks apply to the rejection over JP10077438 and EP600205 as those pertaining to JP7118592.

The rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over either JP 10077438, JP 118592, or EP 600205 in view of US 5510398 is now moot because claim 21 has been canceled without prejudice as being redundant to claim 13.

**US 6039796 IN VIEW OF US 3053683**

Claims 1, 3, 5, 7, 9, 11, 15-18, and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kubota (U.S. 6,039,796) in view of Yolles.

The Examiner concurs that Kubota et al. is drawn to an ink jet ink while the present claims have been amended to recite a ball-point pen ink. However, the Examiner's position is that the intended use as recited in the claim preamble of the

At a minimum, the explicit teaching of Kubota et al. is an ink composition that comprises at least:

- a. colorant.
- b. an inorganic oxide colloid and
- c. an aqueous solvent

There is no inorganic oxide colloid present in the claimed invention here.

The rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over US 6039796 in view of US 3053683 is now moot because claim 7 has been canceled without prejudice as being redundant to claim 1.

**US 6039796 IN VIEW OF US 3053683 FURTHER IN VIEW OF US 5714526**

Claims 13 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kubota in view of Yolles further in view of Whyzmuzis (U.S. 5,714,526.)

The primary reference Kubota et al. and the secondary reference Yolles do not support unpatentability for the reasons previously stated. Hence, there is no context for the application of the tertiary reference Whyzmuzis.

The rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over JP 118592 in view of US 3053683 further in view of US 55714526 is now moot because claim 21 has been canceled without prejudice as being redundant to claim 13.

present claims ("ball-point pen") is not considered a limitation of the claims and is of no significance to claim construction.

In *Catalina Marketing International v. Coolsavings.com, Inc.*, 62 USPQ 2d 1781, 1785 (Fed. Cir., 2002) the Court of Appeals for the Federal Circuit clearly stated:

"...clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention."

Applicant relies on the language the Examiner characterizes as preamble, that is, "ball-point pen ink" in distinguishing the claimed invention from *Kubota et al.* The claimed invention of claim 1 is a ball-point pen ink. *Kubota et al.* discloses an ink jet ink.

Further, the Examiner has asserted:

"Kubota et al. disclose an aqueous based ink comprising inorganic pigment, ... colorant, water-soluble solvent, water, ... water-soluble resin, and ... anionic or nonionic resin emulsion (col. 3, lines 61 and 65, col. 4, lines 15-17, col. 5, line 32, col. 6, lines 15 and 40-43)."

- Office Action of July 12, 2001, page 6

This is not a fair reading because *Kubota et al.* explicitly states

"Ink composition

The ink composition according to the present invention comprises at least a colorant, an inorganic oxide colloid, an alkali metal hydroxide, and an aqueous solvent."

- Col. 3, lines 52-54 (Emphasis supplied.)

"The alkali metal hydroxide, which is an indispensable component of the ink composition according to the present invention..."

- Col. 6, lines 11-13 (Emphasis supplied.)

"Specifically, the ink composition used in the ink jet recording method according to the present invention comprises at least a colorant, an inorganic oxide colloid, and an aqueous solvent and has a pH value of not less than 9."

- Col. 8, lines 52-56 (Emphasis supplied.)

US 6039796 IN VIEW OF US 3053683 FURTHER IN VIEW OF US 6099629

Claim 19 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kubota et al. in view of Yolles further in view of Morita et al. (U.S. 6,099,629.)

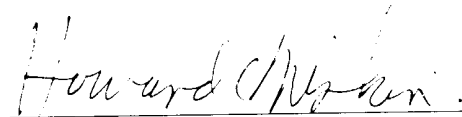
The primary reference Kubota et al. and the secondary reference Yolles do not support unpatentability for the reasons previously stated. Hence, there is no context for the application of the tertiary reference Morita et al.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration and allowance of the application is requested.

Respectfully submitted.

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## VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 22. (Amended.) (Amended.) A writing tool having an ink container in which an aqueous glittering ink composition is packed, wherein said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$ , a colorant, a water-soluble resin, a water-soluble organic solvent and water.

Claim 24. (Twice Amended) A writing tool as set forth in claim 22, wherein the viscosity of ink measured by an ELD[-type] viscometer [(3° R14 cone {corn}: rotation speed: 0.5 rpm: 20°C{ })] is 1000 to 10000 mPa·s.

Claim 28 (Amended.) A writing tool as set forth in claim 22, wherein said [aqueous glittering ink composition further comprises a] colorant is present in about 0.01 to about 30% by weight relative to the total amount of the ink composition.

Claim 29. (Amended.) A writing tool having an ink container that is made of a hollow tube equipped with a ball-point pen tip at one end, wherein an ink container in which an aqueous glittering ink composition is packed, and said aqueous glittering ink composition comprises a glass flake pigment coated with a metal having a median diameter of about 5 to about 100  $\mu\text{m}$  and contained in about 1.0 to about 40% by weight, a water-soluble resin contained in about 0.01 to about 40% by weight and a water-soluble organic solvent contained in about 1.00 to about 40% by weight, and water relative to the total amount of the ink composition.

Claim 30. (Twice Amended) A writing tool as set forth in claim 29, wherein said water-soluble resin is a water-soluble thickening resin and the viscosity of aqueous



glittering ink measured by an ELD[-type] viscometer [(]3° R14 cone [corn]; rotation speed: 0.5 rpm; 20°C[)] is 1000 to 10000 mPa•s.

Claim 31. (Amended.) A writing tool as set forth in claim 30, wherein said water-soluble thickening resin is a microbial polysaccharide or a derivative thereof selected from pullulan gum, xanthan gum, welan gum, rhamsan gum, succinoglucan and dextran.

Claim 32. (Amended) A writing tool as set forth in claim 30, wherein said water-soluble thickening resin is a microbial polysaccharide or a derivative thereof selected from the group consisting of pullulan gum, xanthan gum, welan gum, rhamsan gum, succinoglucan and dextran.

Claim 33. (Twice Amended) A method of claim 32, wherein the viscosity of aqueous glittering ink measured by an ELD[-type] viscometer [(]3° R14 cone [corn]; rotation speed: 0.5 rpm; 20°C[)] is 1000 to 10000 mPa•s.

Claim 35. (Twice Amended) A method of claim 34, wherein the viscosity of aqueous glittering ink measured by an ELD[-type] viscometer [(]3° R14 cone [corn]; rotation speed: 0.5 rpm; 20°C[)] is 1000 to 10000 mPa•s.